iPod Touch 3rd Generation Teardown

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INTRODUCTION

We got our new iPod touch 3rd Generation on the morning of September 11, 2009.

Want up-to-the-minute updates? Follow @ifixit on twitter.

Check out the YouTube video of the teardown!

🔧 TOOLS:

- iFixit Opening Tools (1)
- Phillips #00 Screwdriver (1)
- Spudger (1)

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## Step 1 — iPod Touch 3rd Generation Teardown

- The new iPod touch 3rd Generation!

- It's available in three different configurations, with both the 32 GB and 64 GB sporting a faster processor and OpenGL ES 2.0 support.

- We don't think anything changed on the 8 GB touch. The only thing we know for sure has changed is the price (it's now $199).

- According to Phil Schiller, "$199 is the magic price point in the iPod world." However, it sure seems people don't mind paying more. Apple's already sold 20 million iPod touches, all for more than $199 each.

Step 2

- We have a 32 GB touch. It looks identical on the outside, but does sport a new model number on the back, A1318. (The second gen touch was A1288).

- The iPod touch didn't get nearly as much love as its smaller sibling, the new nano. There's still no camera.

- For now anyway, if you want both a touch screen and a camera, an iPhone's your only option.

Step 3
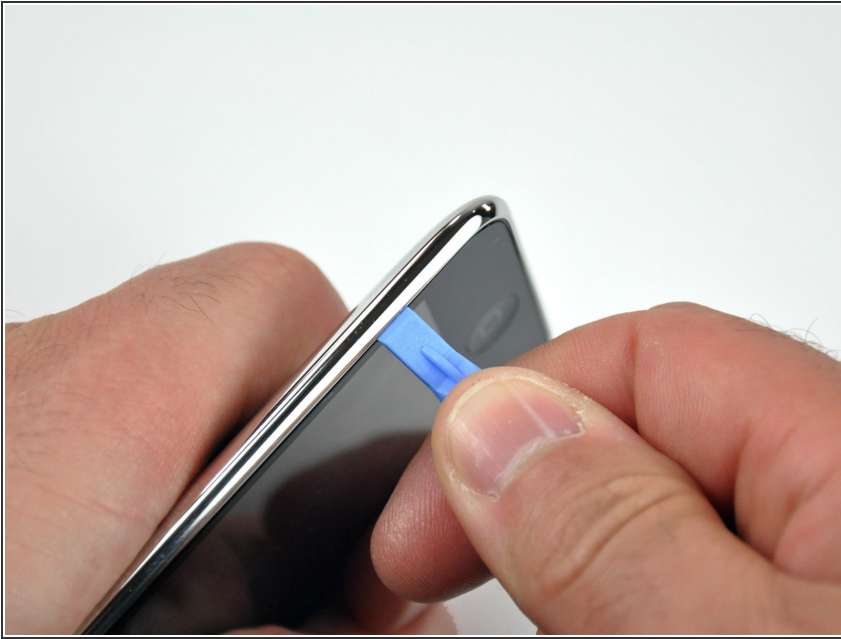
- We're working on getting it open. In the meantime, let's have some fun with numbers.

- Retailing for $399 in the US, you'll be paying $6.23 per gigabyte for the 64 GB touch. That's no match for the $1.56 per gigabyte for the 160 GB iPod Classic.

- Going back four years, the original nano was $62.25 per gigabyte, while the hard drive-based 60 GB iPod Video of that era was $6.65 per gigabyte.

- Interestingly, that means that today flash is roughly equivalent to where hard drives were four years ago. In 2005, you could purchase a 60 GB iPod Video for $399, while today you can get a 64 GB iPod Touch for the same price.

- (i) Don't read too much into these numbers; there's lots of other costs and components to the iPods other than the raw storage medium.

Step 4

- According to Apple, the new touch is up to 50% faster. It will be interesting to see how performance stacks up against the iPhone 3GS.

- Getting this iPod open wasn't easy. Yes, we keep saying that about iPods lately. Unfortunately, there's not a single currently shipping iPod that isn't very difficult to open.

- The front glass and digitizer isn't the same as on earlier touches. This is our most popular repair part on the iPod touch. We have these for both the 1st and 2nd generation, and will be adding parts for this one as soon as possible.

Step 5

- We're in! No surprises yet. We'll get to the chips as soon as we can.

- You can see the silver metal retaining clips on the sides of the LCD. There are four clips on the right side, and three on the left.

Step 6
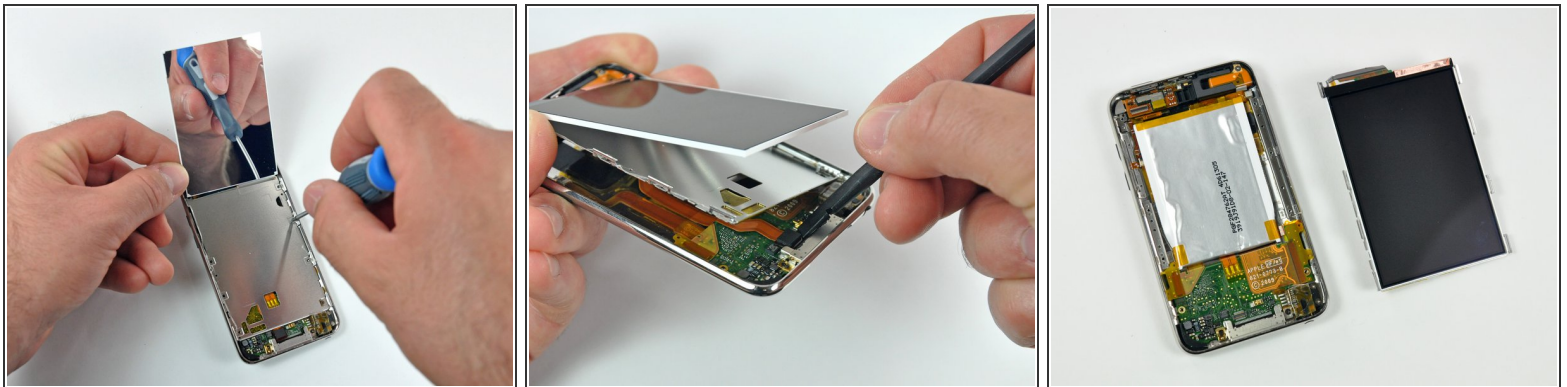
- You get a free mirror with every iPod touch!

- A [Phillips #00 screwdriver](#) makes quick work of the screws holding the LCD assembly in the touch.

- The LCD is very similar, but not identical to that of the 2nd gen touch. The connector on this display is just a tad wider.

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Step 7
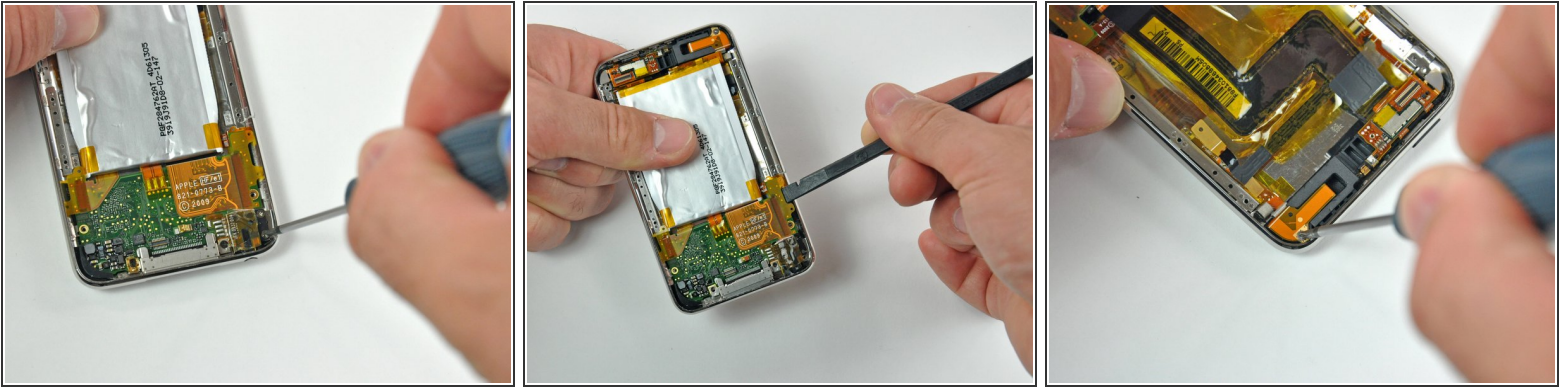
- Let's get the logic board out...

- We're skipping a few of the details, so don't use this to take apart your touch.
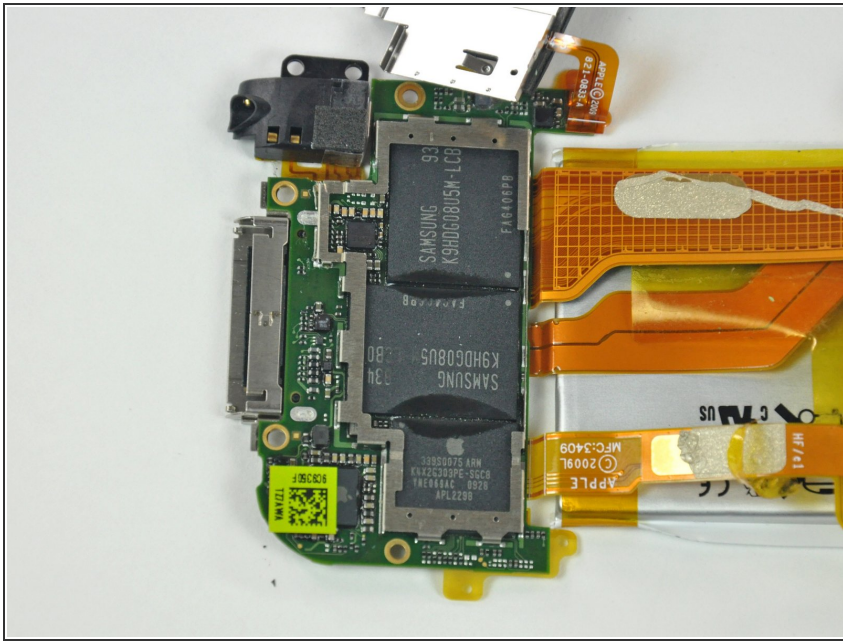
Step 8
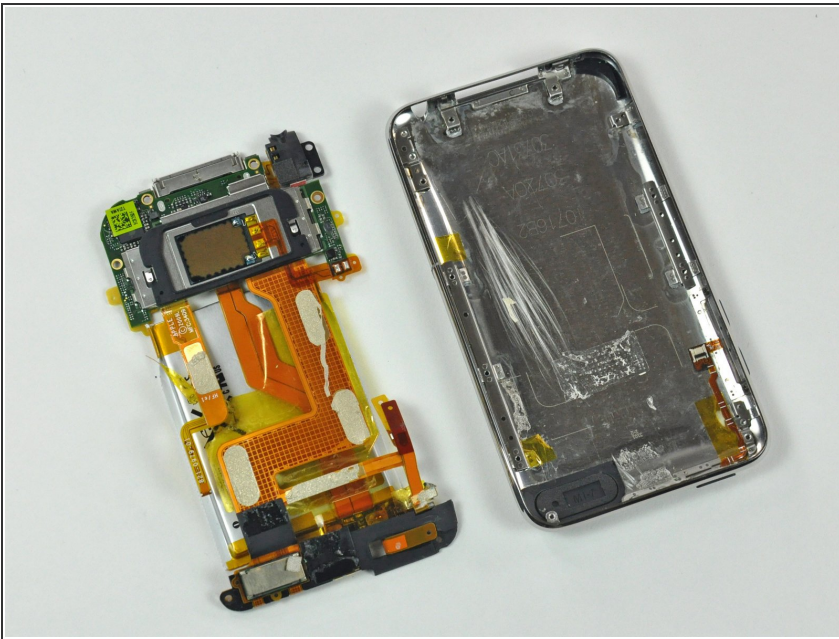
- It's out!

- You can see the speaker sitting on top of the logic board.

Step 9

- The battery. It's 2.92 Whr, which comes out to be 789 mAh.

- (i) We appreciate it when Apple prints the watt-hour ratings on their batteries, it makes our job a lot easier.

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Step 10

- After peeling away the speaker, here's the brains of the Touch.

- Samsung looks to be the big winner here.

- The primary ARM processor is adorned with the following:

  - 339S0075 ARM

  - K4X2G303PE-SGC8

  - YNE069AC 0928

  - APL2298

- Is this a new, faster processor? The processor on the last iPod touch (2nd gen) was labelled 339S0048ARM. The processor in the iPhone 3GS is marked 339S0073ARM.
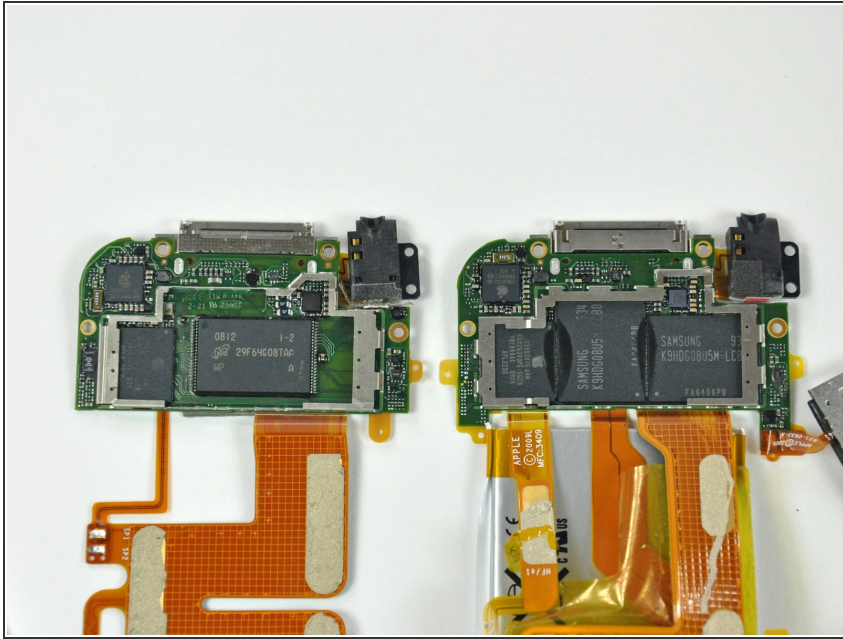
Step 11
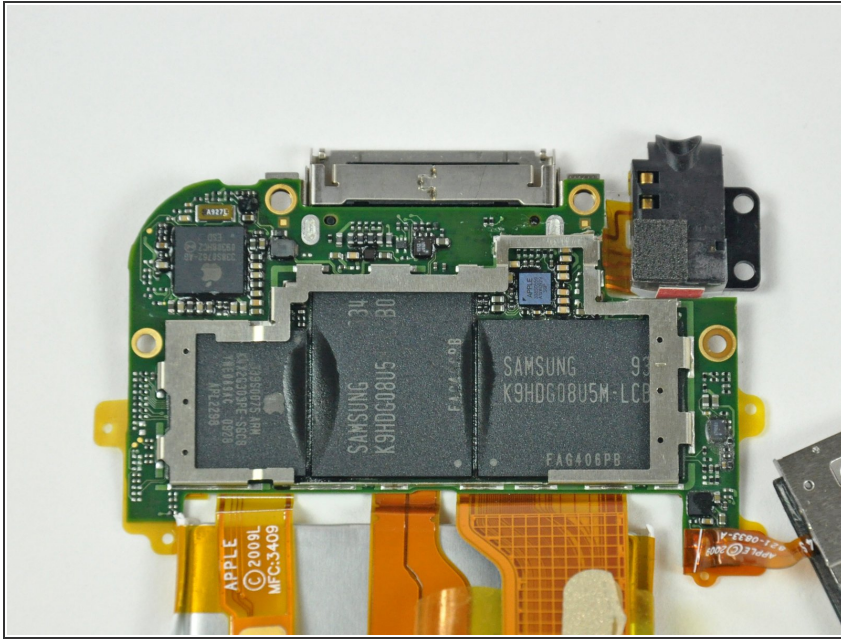
- The Samsung branded NAND flash.

- There are two 128 gigabit packages, for a total of 256 gigabits. Divide that by eight, and that's 32 gigabytes of MLC NAND flash.

- ⓘ The chips looked like that when we removed the speaker, we didn't damage them ourselves. We're not sure if that's just adhesive, or if the packages were actually slightly melted.

Step 12
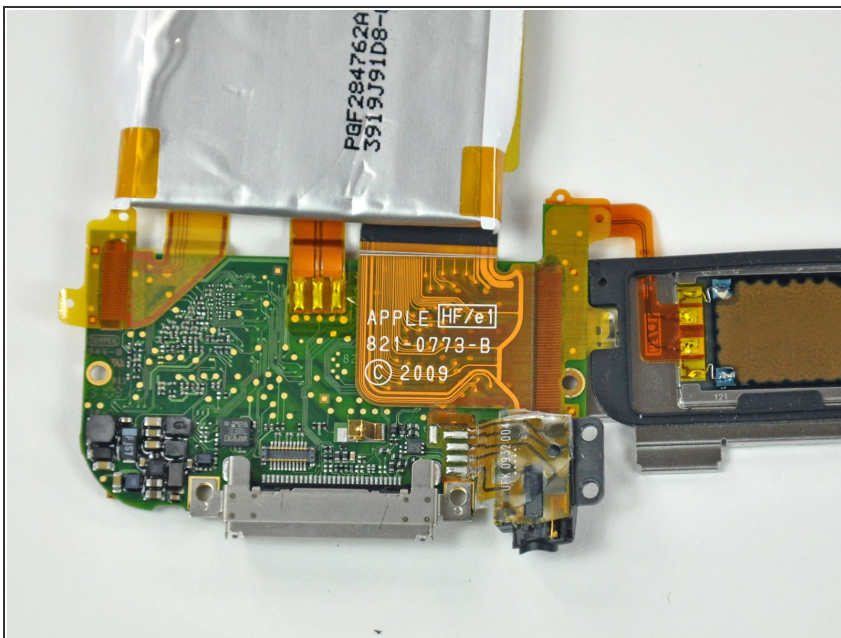
- The other side of the board.

- You can see where the contacts for the battery connect to the logic board, just to the left of the word "APPLE."

Step 13

- An 8 GB 2nd gen touch logic board (left) and our new 32 GB 3rd gen touch logic board.

- Both machines have the same basic board design. However, on the 3rd gen, the NAND flash is split between two chips, leaving very little free space on the board.

Step 14
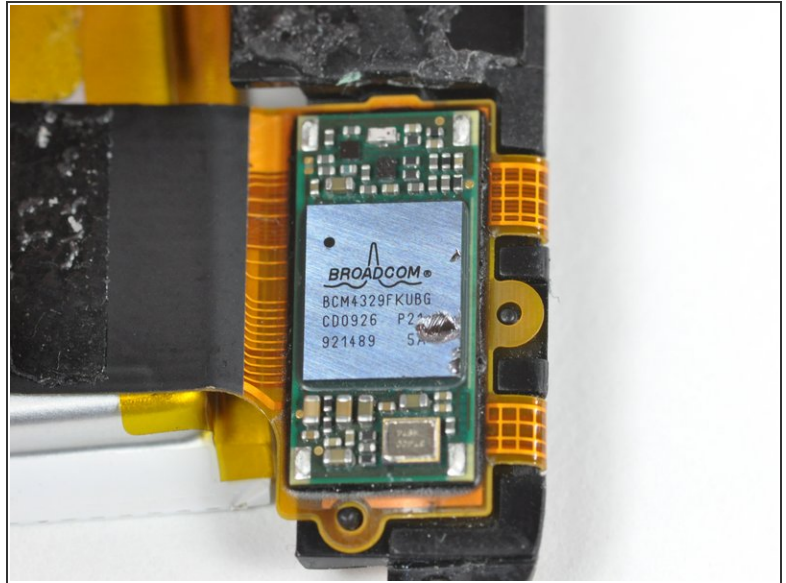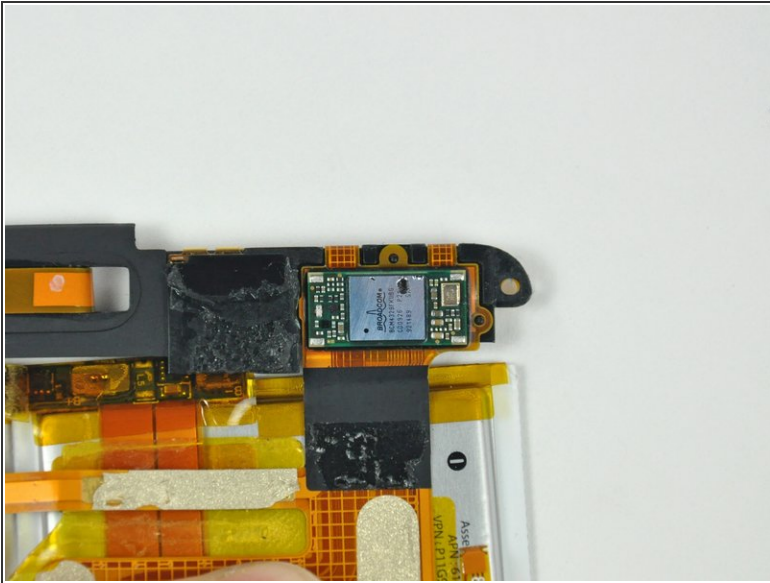
- Broadcom BCM4329FKUBG wireless chip.

- According to Broadcom, the BCM4329 supports 802.11n!

- This is a big deal, as even the iPhone 3GS doesn't support 802.11n. The iPhone 3GS has a BCM4325 wireless chip, which only supports 802.11 a/b/g. We don't know yet if 802.11n will be supported in software, but at least the hardware's there.

- There's also Bluetooth 2.1 + EDR and a FM receiver and transmitter packed into this chip. If they built in the antennas, and if Apple adds software support, you could theoretically stream music to your car stereo without any external hardware. But that's a lot of ifs.

Step 15
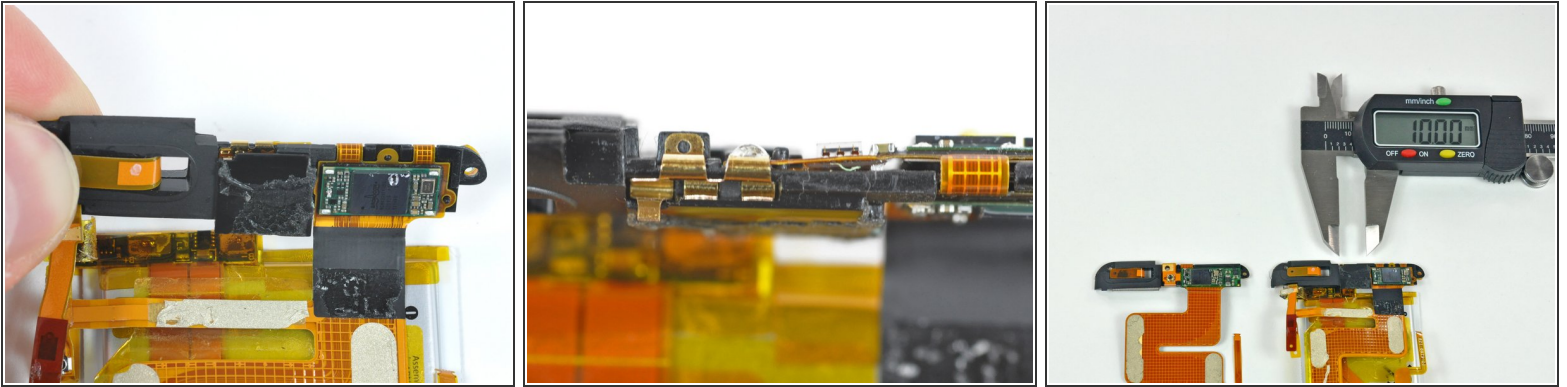
- It appears that Apple left in room for a camera in the top of the device. There is a 6mm × 6mm × 3mm space between the Broadcom chip and the wireless antenna. There isn't enough depth for an iPhone-style autofocus still camera, but just enough room for the camera that Apple used in the 5th generation iPod nano.

Step 16
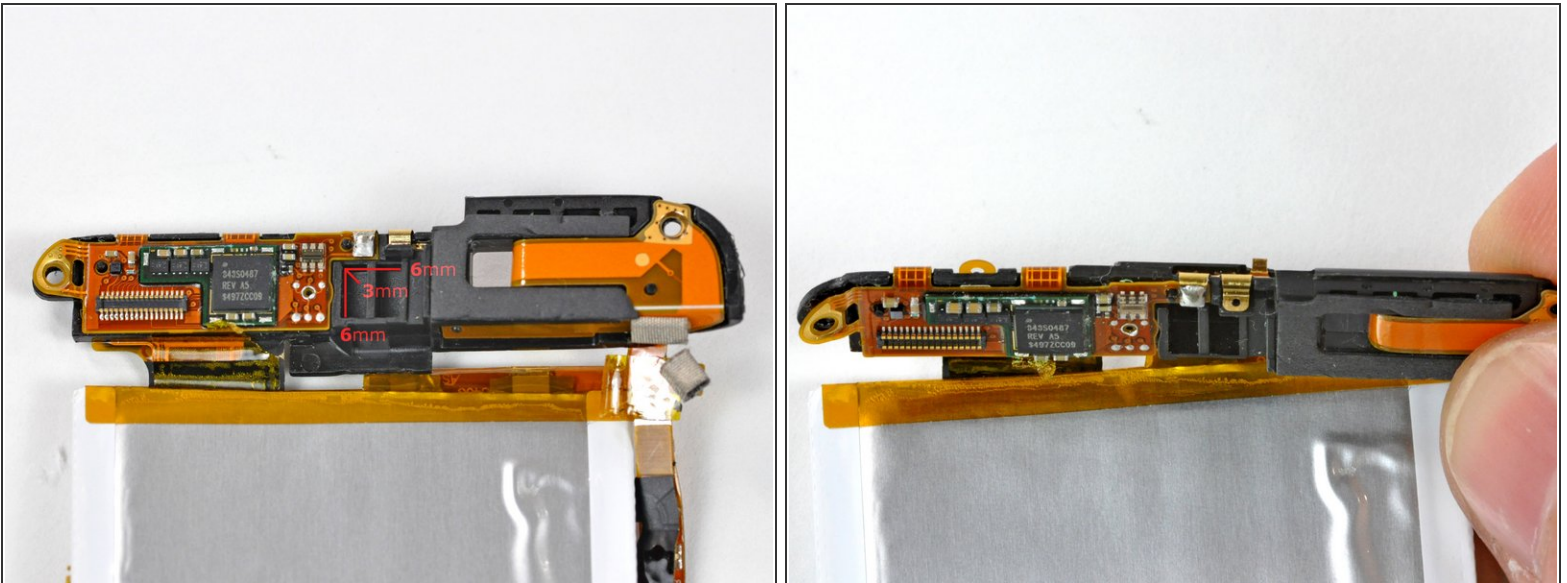
- Other side of the board.

- Not enough hardware for you? Just yesterday, we did a teardown of the 5th generation iPod nano.

- Shameless plug: We sell hundreds of iPod parts for repairing your iPod touch, replacing an aging iPod battery, or fixing a cracked screen.

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